

REMARKS

The Office Action mailed February 12, 2003 has been reviewed and the Examiner's comments carefully considered. Applicant respectfully requests reconsideration of the present application in view of the foregoing amendments and the reasons which follow.

Allowable Subject Matter

The indication that claims 5, 8 and 9 contain allowable subject matter is noted with appreciation.

Drawings

The drawings are objected to for failing to show "the additional pairs of inputs." The grounds for the objection has been obviated in light of the amendment to Figure 2. A new drawings sheet containing Figure 2 is being presented to be substituted for the previously submitted drawing sheet. Figure 2 has been amended to show the additional pairs of inputs 10A, 12A, 14A and 16A. Reconsideration and withdrawal of the rejection is respectfully requested.

Claim Objections

Claim 11 is objected to because claim 11 included the concept of a splitter while claim 1 was directed to a combiner. Claim 11 has been rewritten in independent form and, thus, the grounds for objection has been obviated. Reconsideration and withdrawal of the objection is respectfully requested.

Claim Rejections

Claims 1-4, 6, 7 and 10-12 are rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 4,956,614 (Baril). The rejection should be withdrawn because Baril fails to disclose teach or suggest the claimed invention.

For example, although Baril discloses a radial combiner for electromagnetic waves, it does not disclose using pairs of inputs to set up standing waves therebetween, the waves being "supported by the conductive plate" as called for in claim 1. Baril discloses a radial

combiner which, as described in column 3, lines 5 to 20, includes a cavity having a wave guide 65 with a metal piece 64 for coupling the cavity to the wave guide 65. Hence, the radial combiner is constructed as a cavity wave guide and not with a conductive plate as now claimed. The Examiner contends that the vanes 62 are a conductive plate however, the vanes 62 are provided individually for each respective input and are provided as impedance transformers. There is no disclosure of a single conductive plate for supporting more than one electromagnetic wave. Certainly, the impedance transformers formed by the vanes 62 do not individually or together support first and second standing waves, as called for in claim 1.

With reference to annotated Figure 3, the Examiner contends that the inputs described in Baril could be considered to be arranged in pairs. Although this in itself may be true, these pairs, for instance A and B do not have standing waves supported therebetween, as called for in claim 1. The inputs merely provide waves to the output 64, 65.

The present invention is based on the idea of using pairs of inputs for respective standing waves and arranging the standing waves such that each pair of inputs is in effect invisible to the other pairs. This is certainly not the case for the arrangement described in Baril. As described in column 3, lines 47 to 65 of Baril, should one or more amplifiers or transmitters break down, the correct operation of the combiner is disturbed. This problem is of the type considered by the present application for known power combiners/splitters.

Baril deals with this problem by providing the resistors 69 to absorb any excess energy. There is no suggestion of arranging inputs in pairs so as to set up standing waves which are unaffected by one another, as called for in claim 1. The arrangement of the present invention ensures that the failure of one of the electromagnetic wave paths will not affect the other wave paths, such that it is unnecessary to use the resistors considered in Baril. Thus, in conclusion, Baril considers a known radial combiner in which inputs are provided individually (or paired for the purpose of phase shifting), but provides no suggestion of setting up standing waves on a single conductive plate between respective pairs of inputs such that each pair is unaffected by the other pairs. Reconsideration and withdrawal of the rejection is respectfully requested.

Claims 2-10 depend from claim 1 and are allowable therewith for at least the reasons set forth above, without regard to the further patentable limitations contained in these dependent claims.

Claim 12 is a method claim substantially corresponding to the device set forth in claim 1. Thus, claim 12 is allowable for at least the reasons set forth above, without regard to the further patentable limitations contained therein.

Claim 11 is a method claim directed to a method of operating a wave device for supporting electromagnetic waves. Baril fails to disclose, teach or suggest the method of claim 11. The arguments set forth above with regard to claim 1, apply with equal force to claim 11. For example, Baril fails to disclose teach or suggest operating a device having “a first pair of outputs positioned on the conductive plate for setting up therebetween a first standing wave supported by the conductive plate” as called for in claim 12. Reconsideration and withdrawal of the rejection is respectfully requested.

Conclusion

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application is respectfully requested. The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would expedite allowance of the application.

Respectfully submitted,

Date: 5/15/03

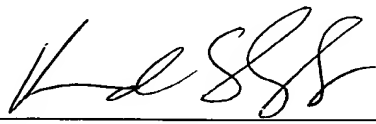
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